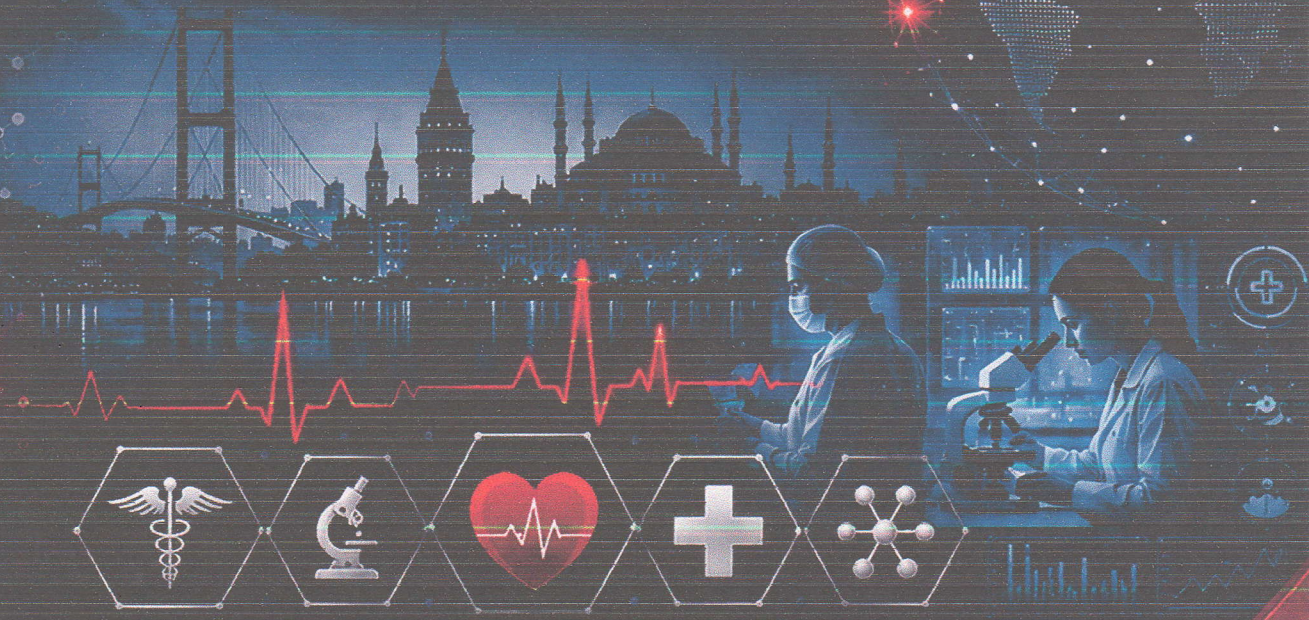
ISTANBUL
NISANTASI
UNIVERSITY

1st INTERNATIONAL HEALTH SCIENCES CONGRESS

May 7-9, 2026

İstanbul / TÜRKİYE



PROCEEDINGS BOOK

EDITOR

Prof. Dr. Fadime ÇINAR

ISBN: 978-625-90406-0-8

ISTANBUL NISANTASI UNIVERSITY
1st INTERNATIONAL HEALTH SCIENCES CONGRESS

May 7-9, 2026 İstanbul/TÜRKİYE

PROCEEDINGS BOOK

EDITOR IN CHIEF

Prof. Dr. Fadime ÇINAR

ISBN: 978-625-90406-0-8

by

ACADEMIC SHARING PLATFORM PUBLISHING HOUSE®

Issued: 07.06.2026

CONGRESS ID

CONGRESS TITLE

ISTANBUL NISANTASI UNIVERSITY
1st INTERNATIONAL HEALTH SCIENCES CONGRESS

DATE and PLACE

May 7-9, 2026 İstanbul/TÜRKİYE

ORGANIZATION

International Scientific Research And Strategy Development Association, TÜRKİYE

CONGRESS CHAIRS

Prof. Dr. Fadime ÇINAR

EDITOR IN CHIEF

Prof. Dr. Fadime ÇINAR

CONGRESS ORGANIZERS

International Scientific Research And Strategy Development Association, TÜRKİYE
Istanbul Nisantası University, Istanbul, TÜRKİYE
Central Asian Medical University, Fergana, UZBEKISTAN
Komrat State University, Comrat, MOLDOVA

PARTICIPANT COUNTRIES (7):

Uzbekistan, Moldova, Azerbaijan, Kazakhstan, India, Nigeria, Türkiye

NUMBER OF ACCEPTED PAPERS (98):

(Türkiye-30, Other Countries-68)

PRESENTATION

Oral presentation

EVALUATION PROCESS

All applications have undergone a double-blind peer review process

ISBN: 978-625-90406-0-8

Evrak Tarih ve Sayısı: 22.03.2026-E.92507

T.C.
İSTANBUL NİŞANTAŞI ÜNİVERSİTESİ REKTÖRLÜĞÜ
Sağlık Bilimleri Fakültesi Dekanlığı

Sayı : E-84326720-051-92507
Konu : Kongre Duyurusu Hk.

22.03.2026

REKTÖRLÜK MAKAMINA

07-09 Mayıs 2026 tarihleri arasında Üniversitemiz ev sahipliğinde, **"IMVHSC Uluslararası Bilimsel Araştırma ve Strateji Derneği 11. Uluslararası Tıp, Sağlık ve Veteriner Bilimleri Kongresi ile İstanbul Nişantaşı Üniversitesi 1. Uluslararası Sağlık Bilimleri Kongresi"** düzenlenecektir.

Söz konusu kongre; tıp, sağlık ve veteriner bilimleri alanlarında ulusal ve uluslararası düzeyde bilim insanlarını bir araya getirerek disiplinler arası bilimsel etkileşimi artırmayı, güncel araştırma sonuçlarının paylaşılmasını sağlamayı ve akademik iş birliklerini geliştirmeyi amaçlamaktadır. Bu kapsamda, Türkiye'deki devlet ve vakıf üniversitelerine kongreye katılım ve bildiri sunumu için resmi davet yazılarının gönderilebilmesi hususunda; Gereğini bilgilerinize saygı ile arz ederim.

Link: https://ubsder.org/imvhsc-11-uluslararasi-tip-saglik-ve-veteriner-bilimleri-kongresi/

Prof. Dr. Ece SALİHOĞLU
Dekan V.

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Kodu :BS437KYKEZ
Belge Takip Adresi : https://turkiye.gov.tr/nisantasi-universitesi-ebys

Adres:Maslak Mahallesi, Taşyoncası Sokak, No: 1v ve No:1y Bina Kodu: 34481742, 34398 Sarıyer/İstanbul
Telefon:(0212) 210 10 10 Faks:(0212) 565 25 25
e-Posta:info@nisantasi.edu.tr Web:www.nisantasi.edu.tr
Kep Adresi:nisantasiuniversitesi@hs03.kep.tr

Bilgi için: Ömer KUZU
Unvanı: Fakülte Sekreteri

Evrak Tarih ve Sayısı: 16.03.2026-E.92374

T.C.
İSTANBUL NİŞANTAŞI ÜNİVERSİTESİ REKTÖRLÜĞÜ
Sağlık Bilimleri Fakültesi Dekanlığı

Sayı : E-84326720-051-92374
Konu : Kongre Görevlendirmesi

16.03.2026

REKTÖRLÜK MAKAMINA

07-09 Mayıs 2026 tarihleri arasında Üniversitemizde düzenlenecek olan **"Uluslararası Bilimsel Araştırma ve Strateji Derneği 11.Uluslararası Tıp, Sağlık ve Veteriner Bilimleri Kongresi ile İstanbul Nişantaşı Üniversitesi 1. Uluslararası Sağlık Bilimleri Kongresi"**nde görev almak üzere aşağıda bilgileri bulunan öğretim üyelerinin görevlendirilmesi hususunda gereğini saygı ile arz ederim.

DÜZENLEME KURULU
Prof. Dr. Ece SALİHOĞLU
Prof. Dr. Fadime ÇINAR
Doç. Dr. Ali ÖZCAN
Dr. Öğr. Üyesi Gamze KILIÇ
Dr. Öğr. Üyesi Sevilay UÇAR YÜZBAŞ
Dr. Öğr. Üyesi Işıl DURAN
Dr. Öğr. Üyesi Pınar SARI YOLSEL
Dr. Öğr. Üyesi Fatih YILDIZ

Prof. Dr. Ece SALİHOĞLU
Dekan V.

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Kodu :BS437K7RY2 Belge Takip Adresi : https://turkiye.gov.tr/nisantasi-universitesi-ebys

Adres:Maslak Mahallesi, Taşyoncası Sokak, No: 1v ve No:1y Bina Kodu: 34481742, 34398 Sarıyer/İstanbul
Telefon:(0212) 210 10 10 Faks:(0212) 565 25 25
e-Posta:info@nisantasi.edu.tr Web:www.nisantasi.edu.tr
Kep Adresi:nisantasiuniversitesi@hs03.kep.tr

Bilgi için: Ömer KUZU
Unvanı: Fakülte Sekreteri

ISTANBUL NISANTASI UNIVERSITY
1st INTERNATIONAL HEALTH SCIENCES CONGRESS
May 7-9, 2026 İstanbul/TÜRKİYE

ONLINE

07.05.2026	SESSION-1/HALL-10
İSTANBUL	UZBEKISTAN TIME: 10:30-12:30

CHAIR: Asst. Prof. Dr. Mamatbuvayev Sanjarbek

Author(s)	Affiliation	Title
Asst. Prof. Dr. Mamatbuvayev Sanjarbek Rahmatjon ogʻlu	Department of Physiology and Pharmacology, CAMU International Medical University	A PROSPECTIVE CONTROLLED CLINICAL EVALUATION OF THERAPEUTIC AND INTEGRATIVE APPROACHES IN THE MANAGEMENT OF OBESITY
Tursunaliyev Behruz Umarali ogli	CAMU International Medical University	INCIDENCE AND EVALUATION OF AORTIC REGURGITATION FOLLOWING CORONARY ANGIOGRAPHY AND CORONARY ARTERY STENTING
Tursunaliyeva Madinaxon Nodirbek qizi Aliyeva Gavharoy Abdumutalipovna	CAMU International Medical University, 2nd year student	PHYSIOLOGY OF THE MUSCLES INVOLVED IN THE PROCESS OF CHEWING
Toshpu'latov Xasanboy Maqsudjon ogʻlu Aliyeva Gavharoy Abdumutalipovna	2nd year student of CAMU International Medical University; Scientific supervisor, CAMU International Medical University	PLATELETS AND HEMOSTASIS: MORPHOFUNCTIONAL AND PHYSIOLOGICAL MECHANISMS
Aliyeva Gavharoy Ergasheva Muxlisaxon	Central Asian Medical University Assistant; Central Asian Medical University of Student	DELAYED TOOTH ERUPTION IN CHILDREN — A NORMAL CONDITION OR AN EARLY SIGN OF HIDDEN PATHOLOGY
Komilova Dildora Alisherovna	Central Asian Medical University, International Medical University	THE ROLE OF PARENTS AND PREVENTIVE APPROACHES IN ENSURING THE HEALTHY DEVELOPMENT OF CHILDREN WITH DOWN SYNDROME
Assistant Soliyeva Gulchehra Abdurakhmonovna	Central Asian Medical University	HEPATOCELLULAR BALLOONING AND FIBROSIS AS PREDICTORS OF MASLD SEVERITY: EVIDENCE FROM AN EXPERIMENTAL STUDY
Assistant Soliyeva Gulchehra Abdurakhmonovna PhD. Associate Professor Yuldasheva Mokhigul Turdialiyevna	Institute of Public Health	EXPERIMENTAL MODEL OF OBESITY AS A TOOL FOR STUDYING THE PATHOGENESIS OF MAFLD
Mamatova Shaxnoza Ilxomovna	Fergana Medical Institute of Public Health, Assistant	PETROLEUM COKE AND ITS PROPERTIES: PHYSICAL-CHEMICAL ANALYSIS AND SANITARY-HYGIENIC IMPACT ON WORKERS' HEALTH

ISBN: 978-625-90406-0-8

PETROLEUM COKE AND ITS PROPERTIES: PHYSICAL-CHEMICAL ANALYSIS AND SANITARY-HYGIENIC IMPACT ON WORKERS' HEALTH

Mamatova Shaxnoza Ilxomovna
Fergana Medical Institute of Public Health, Assistant
ORCID: https://orcid.org/0009-0007-3512-2349

Abstract

This study presents a comprehensive, in-depth investigation into the physicochemical properties, structural classifications, and diverse industrial applications of petroleum coke generated throughout advanced crude oil refining processes. Focusing specifically on the operational environment of the Fergana Oil Refinery (FOR) as a primary industrial case study, the research thoroughly examines the origin, dispersion mechanisms, and technological sources of coke dust emissions. Furthermore, it evaluates the complex hygienic, toxicological, and environmental hazards associated with prolonged occupational exposure. Analytical data and instrumental measurements substantiate that airborne concentrations of coke dust frequently exceed established maximum allowable thresholds, directly contributing to the impairment of workers' physiological functions and triggering severe respiratory and systemic pathologies. Consequently, the paper emphasizes the critical imperative for implementing modern technological modernization, closed-loop production cycles, advanced filtration systems, and rigorous occupational health safeguards.

Keywords: petroleum coke, coke dust emissions, thermal cracking, pyrolysis, carbon matrix, industrial hygiene, occupational toxicology, environmental safety, occupational diseases, preventive measures.

INTRODUCTION

In recent years, diversifying the fuel and energy sector, utilizing resources efficiently, and ensuring healthy working conditions in modern industrial enterprises have remained among the most pressing issues. Crude oil refining technology plays a vital role in enriching energy resources and manufacturing various chemical products. However, due to the thermal decomposition of heavy fractions, these processes not only produce a solid carbon-based substance known as petroleum coke, but also generate harmful airborne factors, specifically coke dust, which poses a serious threat to workers' health. The main objective of this study is to examine the physicochemical properties of petroleum coke and evaluate the key hygienic and ecotoxicological factors using the example of the Fergana Oil Refinery.

MAIN BODY

Petroleum coke is a solid carbonaceous product generated through the high-temperature thermal cracking or pyrolysis of heavy residual crude oil fractions at operating temperatures ranging from 500 to 550 degrees Celsius. Industrial processing primarily relies on technological methods such as delayed coking and fluid coking. Based on processing stages and applications, petroleum coke is categorized into distinct types: raw (green) coke, which contains high levels of unrefined volatile matter; calcined coke, treated at extreme thermal conditions between 1200 and 1400 degrees Celsius for electrical engineering applications; and metallurgical coke, extensively utilized in the industrial synthesis of aluminum, silicon, and specialized ferroalloys.

ISBN: 978-625-90406-0-8

Chemically and physically, petroleum coke is predominantly composed of carbon, accounting for 90 to 98 percent of its total mass. The remaining composition includes variable amounts of sulfur ranging from 0.5 to 7 percent, nitrogen, oxygen, and trace heavy metal compounds such as vanadium and nickel. Structurally, it exhibits a bulk density of 0.8 to 1.1 grams per cubic centimeter and a high combustion temperature window between 800 and 1000 degrees Celsius.

Evaluating the operational environment at the Fergana Oil Refinery through instrumental and laboratory measurements reveals that massive dust emissions occur during routine mechanical operations including coke crushing, material transportation, loading, and drying. Specifically, active material handling and transport zones exhibit airborne dust concentrations reaching between 7.2 and 8.0 milligrams per cubic meter, which significantly surpasses established sanitary and hygienic regulatory limits. Due to their fine respirable fraction and micro-disperse structure with particle sizes extending up to 8 micrometers, these airborne particles remain suspended for extended periods and penetrate deep into the workers' respiratory tracts. This continuous exposure triggers persistent inflammation of the mucosal membranes, substantially elevating the risk of developing chronic bronchitis, allergic rhinitis, pneumonia, and occupational bronchial asthma, while also imposing adverse systemic effects on the cardiovascular system.

Conclusion

Despite its high energy density and critical strategic importance in modern industry, the production and processing of petroleum coke generate significant environmental and occupational hygiene challenges. The empirical findings from the Fergana Oil Refinery, which reveal excessive concentrations of airborne coke dust, clearly emphasize the urgent need for comprehensive technological modernization. To effectively mitigate these hazards, it is essential to implement closed-loop production systems, install advanced dust-filtering and ventilation units, and fully equip personnel with high-quality personal protective equipment. Addressing these critical safety measures is vital not only for reducing the incidence of occupational respiratory and systemic diseases among workers, but also for ensuring long-term ecological sustainability and environmental safety within the industrial region.

ФОЙДАЛАНИЛГАН АДАБИЁТЛАР

1. Abdullaev A.A. "Нефть кимёси ва қайта ишлаш технологияси". – Tashkent: Fan, 2021.

2. Qosimov R.A., Tursunov N.M."Саноат корхоналарида меҳнат муҳитининг гигиеник хусусиятлари". – Tashkent: Ibn Sino, 2019.

3. Ivanov, A. V., & Petrov, M. N. (2021). Environmental impact of coke dust emissions during petroleum refining. *Journal of Petroleum Science and Engineering*, 206, 118–126.

4. World Petroleum Council. Petroleum Coke and Its Industrial Uses. – London, 2022.

5. UzR No. 0294-11. *Hygienic standards for permissible concentrations of harmful substances in the air of working areas. – Tashkent.*

ISBN: 978-625-90406-0-8